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FOREST PRODUCTS LABORATORY

In cooperation with the University of Wisconsin

MADISON, WISCONSIN



List of publications on
PULP AND PAPER

Revised
May, 1926

PUBLICATION LISTS OF THE
FOREST PRODUCTS LABORATORY, FOREST SERVICE

Pulp and Paper

Suitability of various woods for pulp and paper; fundamental principles underlying the pulping and bleaching processes; methods of technical control of these processes; relation of the chemical and physical properties of pulps and the relation of these properties to the paper-making qualities of the pulps; waste in the industry, e.g., decay in wood and pulp, utilization of bark, white water losses, etc.

Other lists of publications dealing with the other investigative projects of the Forest Products Laboratory are obtainable on request. They are as follows:

Derived Products

This list includes publications that give the results of research by the Forest Products Laboratory on the chemical properties and uses of wood and chemical wood products, such as turpentine, alcohol, and acetic acid.

Boxing and Crating

Strength and serviceability of shipping containers, methods of packing.

Glue, Plywood, and Coatings

Development of waterproof glues. Preparation and application of various glues. Plywood manufacturing problems. Coatings and methods of application.

Industrial Investigations

Methods and practices in the lumber-producing and wood-consuming industries; standard lumber grades, sizes, and nomenclature; production and use of small dimension stock; specifications for small wooden products; uses for little-used species and commercial woods, and low grade and wood waste surveys.

Pathology (In cooperation with the Bureau of Plant Industry)

Fungous diseases of trees; decay, molds, and stains in timber, in buildings, and in wood products; antiseptic properties of wood preservatives.

Preservation

Preservative materials and methods of application. Durability and service records of treated and untreated wood in various forms.

Timber Mechanics

Strength of timber and factors affecting strength; design of wooden articles or parts where strength or resistance to external forces is of importance.

Timber Physics

Experimental and applied kiln drying, physical properties, air drying, steam bending.

Wood Technology

Identification of wood, effect on wood of turpentine and other extrinsic agencies, and structure of wood in relation to its properties.

The Forest Products Laboratory reserves the right to furnish only those publications, available for distribution, which in its judgment will furnish the information requested. Blanket requests or request for a large number of copies of any individual article will not be filled except in unusual cases.

LIST OF PUBLICATIONS ON PULP AND PAPER

Forest Products Laboratory
Madison, Wisconsin

PUBLICATIONS AVAILABLE FOR DISTRIBUTION

MIMEOGRAPHED REPORTS

(Please give both number and title when ordering)

- 556 Advantages of liquid sulphur dioxide in sulphite pulp manufacture
- *809 American pulpwoods. Suitability of various American species of woods for pulp and paper manufacture.
- 463 Chemical control of the kraft process
- 514 Consumption of chemicals by the sulphate process (Results of experiments to determine the consumption of chemicals in pulping of unbarked wood by the kraft process)
- 788 De-inking of old newspapers
- 542 Effect of moisture introduced into the digester in the cooking of soda pulp
- 118 Factors in the quality of groundwood
- 657 Factors influencing the value of pulpwood. Observations on the storage of pulpwood for the manufacture of sulphate pulp
- 183 Grinding wood from "old" and "young" trees
- 529 How paper is affected by humidity
- 488 Improved method for the determination of Alpha-, Beta-, and Gamma-cellulose.

- 564 List of references on pulp and paper
- 81 Measurement of pulpwood and determination of yields therefrom
- 732 Methods of analysis for pulps and woods used by the section of pulp and paper
- 122 Moisture regain of paper at different humidities
- 593 Paper making qualities of various fibrous plants
- 480 Partial list of manufacturers of pulp and paper mill equipment
- 270 Pulping value of ailanthus
- 645 Pulping yellow pine chips
- 515 Recovery of waste paraffined paper by extraction with volatile solvents
- 418 Select paper bibliography of U. S. Government publications on pulp and paper
- 119 Some general notes on pulp and paper manufacture
- 549 Some observations on the retention of china clay by paper pulp
- 358 Some observations on the influence of humidity on the physical constants of paper
- 237 Southern forests and the pulp and paper industry
- 599 Suitability of plant fibres for pulp and paper manufacture
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- 448 Tearing resistance of paper
- 308 Tests on corrugated fibre board shipping containers
- 309 Tests on solid fibre board shipping containers for the improvement of designs and specifications
- 376 Tests to determine the time required for silicate of soda to reach its maximum holding power when used on fibre board

- 12 Use of bark for paper specialties
- 6 Utilization of decayed wood in the chemical processes.
- *779 Wilkinite, a new loading material
- 80 Wood waste symposium

REPRINTS

(Please give title and author's name when ordering)

Advantage of liquid sulphur dioxide in sulphite pulp manufacture. By V. P. Edwardes

Bentonite for pitch trouble. By S. D. Wells

Bleaching of wood pulp. I. - Factors affecting the process and their control. By C. E. Curran and P. K. Baird

Bleaching of wood pulp. II. Effect of hardness of water. By C. E. Curran and P. K. Baird

Bleaching of wood pulp. III. The effect of temperature on the bleaching of sulphite pulp. By C. E. Curran and P. K. Baird

Bleaching of wood pulp. IV. Effect of consistence on bleaching of sulphite pulp. By C. E. Curran and P. K. Baird

Book paper from southern pines and gums. By S. D. Wells

Book paper from southern woods. By S. D. Wells

Chemical constituents of flax straw. Weakening of the bast by various pulping methods. By S. D. Wells and E. R. Schafer

Chemical constitution of soda and sulphate pulps from coniferous woods and their bleaching qualities. By S. D. Wells

Chemical investigation of sound and infected groundwood pulp. By S. S. Mahood and D. E. Cable.

Chemical studies on the pulping of aspen. By F. G. Rawling and J. A. Staidl

Chemistry of the alkaline wood pulp process. I. Aspen, loblolly pine, and jack pine by the soda process. By S. D. Wells, R. H. Grabow, J. A. Staidl, and M. W. Bray

* Reprints are also available

Chemistry of the sulphite process. By R. N. Miller and W. H. Swanson

Chemistry of the sulphite process. II. Chemical properties of pulps prepared by indirect cooking. By M. W. Bray and T. M. Andrews

Chemistry of the sulphite process. III. Reactions of the calcium base. By R. N. Miller and W. H. Swanson

Chemistry of the sulphite process. IV. Distribution of sulphur during the cook. By R. N. Miller and W. H. Swanson

Chemistry of the sulphite process. V. Effect of various compositions of acid upon yield and quality of pulp. By R. N. Miller and W. H. Swanson

Chemistry of the sulphite process. VI. Relative effects of temperature and of acid concentration during the cooking by R. N. Miller and W. H. Swanson

Chemistry of the sulphite process. VII. Effects producible by variation in pressure. By R. N. Miller and W. H. Swanson

Chemistry of the sulphite process. VIII. Studies of the acid hydrolysis of wood. By R. N. Miller and W. H. Swanson

Chemistry of the sulphite process. IX. The influence of hydrogen-ion concentration. By R. N. Miller, W. H. Swanson and Ragnar Söderquist.

Chemistry of the sulphite process. X. Easy-bleaching pulp. By W. H. Swanson and W. H. Monsson

Classification, filing and indexing system for a pulp and paper library. By C. E. Curran

Collecting data for cost calculations. By R. N. Miller

Comparison of the chemical changes of jack pine and aspen woods cooked by the soda process. By M. W. Bray and T. M. Andrews

Continuous specific gravity recorder. Codwise

Decayed wood for sulphite pulp. By J. D. Rue

Development of pulp and paper making in the South. By J. D. Rue

Effect of varying certain cooking conditions in the production of sulphite pulp from spruce. By S. E. Lunak

Factors influencing the properties of wood cellulose as isolated by the chlorination method. By M. W. Bray and T. M. Andrews

How to measure white water losses. By V. P. Edwardes

Influence of moisture on tests of container boards. By S. D. Wells

Influence of sulphur in the cooking of jack pine by the sulphate process. By S. D. Wells

More pulp per cord of wood, Why not? By J. D. Rue

New method of cooking straw for strawboard. By J. D. Rue and W. H. Monsson

New tearing machine measures strength of paper. By Armin Elmendorf

Notes on the coloring of pulp and paper. By Otto Kress

Proposed modification of the sulphite process. Shortening cooking time by preliminary impregnation in the production of sulphite pulp. By V. P. Edwardes

Proposal for reducing the contamination of streams by strawboard mills. By J. D. Rue and F. G. Rawling

Pulp evaluation as affected by the fiber ratio in the test sheets. By C. L. Bachelder

Pulp from cotton linters. By Otto Kress and S. D. Wells

Pulp-wood consumption and wood-pulp production. 1923
U.S.D.A. Bureau of Census

Relation between cooking conditions and yield and quality of sulphite wood pulp. By R. N. Miller

Results of sulphate pulping experiments. Log of the Lab.

Semi-cellulose and semi-chemical pulping. A review of publications relating to the subject. By J. D. Rue

Some observations on the de-inking of old newspapers. By S. D. Wells.

Soluble sulphites and their bisulphites. A review of the literature. By John P. Rue

Southern forests and the pulp and paper industry. By J. D. Rue and S. D. Wells,

Study of flax straw for paper making. By J. D. Rue, S. D. Wells, and E. H. Schaefer

Suitability of cotton hull fiber for paper and pulp manufacture. By Otto Kress

Use of decayed wood in bleached sulphite pulp. By J. D. Rue, R. N. Miller, and C. J. Humphrey

Use of preliminary impregnation in cooking wood by the alkaline processes. By S. D. Wells, J. A. Staidl and R. H. Grabow

Utilization of oat hulls for strawboard and paper pulp. By S. D. Wells

Waste water problem in newsprint mills. By V. P. Edwardes

White water losses as affecting paper costs. By V. P. Edwardes

White water utilization. By V. P. Edwardes

TECHNICAL NOTES

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- 204 Commercial processes of pulping woods for paper
- 194 Cost of de-inked newspapers
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- 159 Pronounced benefits from preliminary impregnation of chips

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of woods grown in the United States
- 168 Testing fiber board for strength
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phate process

FOREST SERVICE BULLETINS

The bulletins listed below are not available for general distribution from the Forest Products Laboratory. They may be obtained from the Superintendent of Documents, Washington, D.C., at prices given until the supply is exhausted. Remittances should be made by money order, or in coin (at sender's risk); stamps can not be accepted. Publications out of print can usually be consulted at any public library.

<u>Title</u>	<u>Date of Issue</u>
*Paper pulp from various woods Forest Service unnumbered bulletin	1912
*Experiments with Jack pine and hemlock for mechanical pulp, Forest Service Bulletin, (unnumbered), 15 cents	1912
*Bibliography of the pulp and paper industries, Forest Service Bulletin 123	1913
*Grinding of spruce for mechanical pulp, Forest Service Bulletin 127, 15 cents	1913
Suitability of longleaf pine for paper pulp, Department of Agriculture Bulletin 72, 5 cents	1914

*Supply exhausted

R444

Effects of varying certain cooking conditions in producing soda pulp from aspen. Department of Agriculture Bulletin 80, 15 cents 1914

*Groundwood pulp. Part I. Grinding of cooked and uncooked spruce; Part II. Substitutes for spruce in the manufacture of groundwood pulp, Department of Agriculture Bulletin 343, 50 cents 1916

*Effect of varying certain cooking conditions in the production of sulphite pulp from spruce, Department of Agriculture Bulletin 620, 15 cents 1918

*Wooden and fiber boxes, Department of Agriculture, Forest Service Circular No. 177 1918

*Regional development of pulpwood resources of the Tongass National Forest, Alaska. Department of Agriculture Bulletin No. 950. 10 cents 1921

How the United States can meet the present and future pulp-wood requirements. Department of Agriculture Bulletin No. 1241. 15 cents 1924

Control of decay in pulp and pulpwood. Department of Agriculture Bulletin No. 1298. 25 cents 1925

DEPARTMENT OF AGRICULTURE BULLETINS

The bulletins listed below originated in bureaus of the Department of Agriculture other than the Forest Service and pertain to pulp and paper subjects. They must be obtained from the Superintendent of Documents according to the conditions outlined on the preceding page.

Zacaton as a paper making material. Bureau of Plant Industry, Department of Agriculture Bulletin 309, 35 cents. 1915.

*Utilization of American flax straw in paper and fiber board industry. Bureau of Plant Industry, Department of Agriculture Bulletin 322, 1916. 5 cents.

Hemp hurds as a paper making material. Bureau of Plant Industry, Department of Agriculture Bulletin, 1916. 5 cents

Crop plants for paper making. Bureau of Plant Industry, Department of Agriculture, Circular 82, Reprint. 1916.

